

"If war were declared to-morrow, what would we do for aircraft?"

AVIATION

APRIL 9, 1923

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VOLUME
XIV

SPECIAL FEATURES

Number
15

GERMAN AIR ACTIVITIES AND LATIN AMERICA
THE LACIERVA "AUTOGIRO" FLYING MACHINE
THE OEHMICHEN-PEUGEOT HELICOPTER DESCRIBED
AMERICAN PILOTS MAKE NEW WORLD'S SPEED RECORDS

THE GARDNER, MOFFAT CO., INC.

HIGHLAND, N. Y.

225 FOURTH AVENUE, NEW YORK

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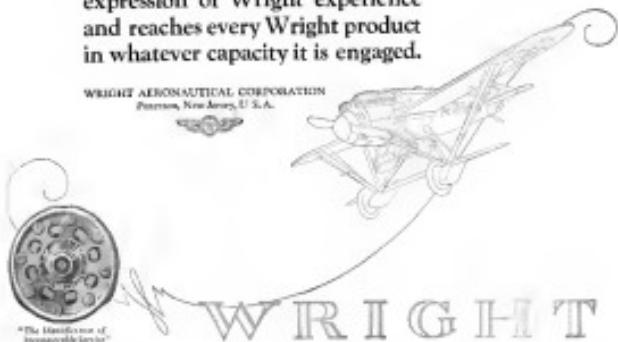
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AVIATION

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No. 25

The Lasters "Autogiro"

THE Lasters "Autogiro" which is described in this issue often natural interest from the military, and more so even from the social point of view. While at first sight there is the temptation to call the machine an engineering freak, this may well be a hasty judgment. One fact stands out: the machine has flown successfully, apparently with water cooling, reaching automatically on takeoff, and it has landed with apparently no forward velocity. That its speed was moderate for the horsepower employed and the load carried is hardly astonishing in view of the fact that this was an experimental machine.

It is to be presumed that the trials of the Autogiro took place under the most favorable weather conditions, hence the machine will still be demanded how it behaves in gusty air, which may affect its automatic lateral stability. Considerable evidence to be the inherent qualities of the Autogiro will only be had after extensive operation under all kinds of conditions, and the trials will be looked forward to with considerable interest.

In the meantime some operations with regard to the practical value of such "gyroplanes" seem likely. That the gyroplane may duplicate the airplane for civil and military purposes, is not likely unless the gyroplane can equal the performance of an equivalent airplane and still possess the feature of landing without forward velocity—which seems doubtful. This is really the whole crux of the problem of aviation. Variable camber wings, Flory flaps, Handley Page slatted wings and variable wing root devices all endeavor to make the airplane land at the lowest possible speed without diminishing its high speed in flight; for the latter is the main advantage the flying machine possesses over other vehicles. All these devices have achieved a certain measure of success, but the drawbacks they also evidently have so far prevented their general use.

What the gyroplane may accomplish, however, if further experiments demonstrate its practical value, is to diminish to a considerable extent the present emphasis for the biplane. The reason above of the biplane is not so much its ability to "lift off" vertically from the ground as its great maneuverability to land vertically, that is, without forward velocity. Airplane accidents happen mostly on landing at high speed on uneven ground, wherein take-off accidents are extremely rare. Hence, if there existed a flying machine that would take off like an airplane and land like a biplane, the need for the latter type of machine would disappear, although airplane accidents might just possibly still be needed for other purposes.

From the military viewpoint gyroplanes would be extremely

valuable for landing in restricted places, such as over the river lines where flying fields can be had not, or on board ship. A flying machine that could be shot into the air from a catapult and that would land with no forward velocity on the deck of an aircraft carrier would solve one of the most difficult problems of naval aviation. This possibility should not be overlooked by our naval authorities, for even though gyroplanes may not be adapted for fighting on account of their inherent instability, they may prove very useful for observation.

New York to Newport Air Line

THIS announcement that a flying boat service for passengers will operate next summer, between New York and Newport, will be welcomed by all those who are interested in the development of air transport by means of up-to-date aircraft.

Everyone has steadily maintained that air transport can not make a business proposal unless several speeds are designed for the purpose, and that the use of converted war aircraft would not be a temporary expedient. We also believe that, far from supplementing any other means of transportation, air boats will create a demand of its own, when time is so valuable that they will be ready to pay the necessary high rate charged for high speed transport if it is safe and reasonably comfortable.

The poor performance of the Roaring Air Junket, which type is to be used on the New York to Newport service, is a fact that their conditions will be fulfilled, and longer will be the success of the new air line.

American Aviation to the Fore

IT is a gratifying induction of the powers of American aviation that no sooner were the new speed records over recognized distances made by French planes known than that country that the Army Air Service went not behind them at a breath-taking rate at MacCook Field. While the maximum speed, duration and distance records have not yet been brought back to America, we may not mind that the Air Service will do its utmost to bring about this result.

The Air Service thus establishes the doctrine that every aviation record which does not belong to America should be contested for until a Wright biplane in the country which gave the world the flying machine. We should like to see the Air Service who go after the airspeed records, all of which are ten years old and could handily be beaten.

"If we were declared to-morrow what would we do for aircraft?"

April 8, 1932

AVIATION

German Air Activities and Latin America

Air Combine Allied with German Shipping Interests Enters Field of World Contest

By Léonidas d'Arcy

According to latest information on hand, the aeronauts of German air arm which was briefly reported in these columns, were even more comprehensive than indicated in the brief news dispatches.

The new air line combine, which is known as the *Aeroflotus A. G.*, will be headquartered at Berlin, and also at the Dutch port of Rotterdam, the Deutsche Luft Hansa will be the *Aeroflotus System*, and the *Luftverkehr A.G.* will be the *Aeroflotus Luftverkehr*, formerly known as the *Dloyd-Darling*. The capital of the German Aeroflotus is 100 million Marks.

Plan of the German Aeroflotus

The Hamburg-American line, the North German Lloyd, and the Algemeine Elektricitäts Gesellschaft are all fully engaged in the development of a transatlantic service between Germany and the Americas. The only remaining independent air line in Germany is the Germania Linke Air Line, which is incorporated in Berlin and operates under British management; it has a number of British aircraft and pilots to its credit. This air line operates a daily mail and passenger service between Hamburg, East Prussia, and Moscow.

The Hamburg-American lines for the 1932 season are very extensive. Not less than eleven airways are to be operated by this company, and the twelve business entities of the German shipping interests may be seen as the agencies which the German Aeroflotus has selected with several foreign air lines for operating some services to overseas.

The Berlin-Düsseldorf-London route is to be operated in conjunction with the Hanseatic Lloyd, the Berlin-Hamburg-Hanover airways route with a Hanse Air Line, the Berlin-Bremen-Frisian Isles route with a Norddeutsche Air Line, the Hamburg-Kiel-Hamburg-Sweden route with the Düsseldorff Luftpost, and the Hamburg-Stettin-Kiel-Germania route with the Alstet Air, a Swiss carrier. That these agreements will powerfully assist the interests of the German air arm is obvious, and it is to be hoped that the new and friendly air lines will have a remote effect, which will reinforce German recognition, alike on the other hand, the Germans who have been in close contact with the industry at the German aircraft industry.

In addition to the established services above mentioned, the German Aeroflotus will serve on the following routes: Berlin-Bremen-Wiesbaden-Münster; Hamburg-Stettin-Hamburg-Westland; Berlin-Stettin-Duisburg-Kiel-Hamburg-Kiel-Sweden; Berlin-Lübeck-Münster-Münich-Nürnberg; Bremen-Hannover-Münster-Hannover-Düsseldorf.

The German civil air department has announced, in the connection, that it will endeavor only those airway services which are in accordance with the principles of economy, and while this lead includes the Junkers and Bremen aviation enterprises, both of which are now fitted with the 250 kp. 32.0 W. low compression type engines, and carry four or five passengers besides the pilot, only the Junkers is actually manufactured in Germany, for the Düsseldorf airways are only designed there, and, indeed, as Switzerland and Italy, where the Dornier interests are located, are not included.

The Junkers factory at Bremen, while Focke-Wulf has a large factory at Bremen, the Bremen airline, Breitling, has organized a Dutch manufacturing company, and Breitling-Darling airways are planned to German design in Surinam. The Albatros company of Berlin recently bought out a smaller airline monopoly for five passengers, fitted with the 350 kp. Rolls-Royce "Eagle" engine.

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Nothing definite is as yet known regarding the proposed Spain to South America airship service of the Zeppelin Company, which under the terms of the peace treaty cannot build airships of more than 36,000 cu. meters capacity. As the plans provide for strengths of 120,000 cu. meters capacity, it is not difficult to visualize a reasonably South American, but certainly not a Spanish, airship which will be built and sent across the Atlantic, centered and south up through Mexico to this country. The Colombie Line may be the first link of the chain, the Brasilia and Mato Grosso services would be additional links of the great North and South American trunk airway which would gather the air borne business of tomorrow for the benefit of German manufacturers.

Long Run of the Future

All this may seem very fanciful, but it is surely along a long axis of the future. The same combination which establishes the newly formed German Aeroflotus and the principal German shipping firms warrants the assumption that the former will have at its disposal the best business interests and connections of the latter. What this means will become clear to those who have been following the history of German shipping traffic to South America, where despite the strength and far-reaching German shipping is making marked strides in a transoceanic effort to relieve the German merchant position in this estimation it is significant that the first advertisement of the German Aeroflotus lists among others that full particulars regarding its services will be issued in all agencies of the Hamburg-American, the Hanseatic, the Norddeutsche, and the Breitling-Darling companies.

It is to be noted that the German Aeroflotus is to be headquartered in South America, where the Mark is to be exchanged for the exchange rate of the Mark against the dollar, which is to be used as a medium of exchange. The German aeroplane, the Junkers, is to be used as a passenger, whereas the classic hypothetical name of the Mark retains the categorization of German aeroplane—namely, German airplane—to the extreme. That is only one of the handicaps experienced by the German manufacturers. Another one is that he has to fight his way through parading himself for the benefit of the public in South America. An American entrepreneur, whence the German manufacturers are driven by his national citizenship, may, which undoubtedly will make him feel over his head the spirit of nationality of the Germans together with their ruthless lossless regard of local customs and conditions gives him the most formidable assistance.

International Flying

It seems reasonable to assume that transoceanic air transport will soon come into being between North and South America long before it is set up between either and Europe. The 3000 miles between Newfoundland and Ireland on one hand, and between Fernando Po and Dakar on the other, will for some time to come be the main—indeed, the sole—means of communication between Europe and the two Americas. While the distance is great, the cost of flying is so small that distances with a reasonably remunerative load will reward the combination of such a service, but it seems doubtful that airplanes will be capable of doing it before ten or more years, that between North and South America no such unprofitable linkages exist. Certainly there are vast areas to be served here, and the fact that the two continents are separated by the Atlantic Ocean makes the task of finding a suitable route for connecting the two continents a difficult problem.

It is to be noted that the first transoceanic airway connection with a planned Brazilian airway service which is announced is a natural link of Pernambuco. Our contemporary states that a Brazilian air line was recently accompanied in Rio de Janeiro for the purpose of operating mail and passenger services between that city and Paranaíba, with a possible extension northward toward the Amazon, and southwest to Santos, Brazil, Santos-Pontal. This company is to employ Junkers aircraft.

Finally, in Mexico, the Commercial Aerolineas Sistemas de Departamentos of Communications and Public Works is considering a request for a concession to operate a public air service between Vera Cruz and Monterrey which was submitted by the Mexican representatives of the Junkers firm.

It will be seen from the above that the German aircraft industry is as active as ever, the "trans-

dome" which was badly crippled by the peace treaty is looking at a map and putting two and two together, it is not difficult to visualize a reasonably South American, but certainly not a Spanish, airship which will be built and sent across the Atlantic, centered and south up through Mexico to this country. The Colombie Line may be the first link of the chain, the Brasilia and Mato Grosso services would be additional links of the great North and South American trunk airway which would gather the air borne business of tomorrow for the benefit of German manufacturers.

The "Twentieth Century Limited" which runs between New York and Chicago could not be approached on the passenger dome—what place for it are the mountains and hills, the passengers have the most wonderful transportation, but they have the most terrible weather, both factors which spell indifference from the revenue earning viewpoint.

And yet, for three years the Europeans air lines, disregarding a hundred years of railroad and shipping experience, did all in their power to attract the traveling public and almost disregarded freight traffic. It is only recently that the European air lines have turned their attention to freight, and now the American and South American transoceanic air lines are turning their attention toward obtaining freight air mail services. Likewise the carrying of mails by air has been very little developed in Europe. In this country the splendid showing of the Air Mail Service should open up an outlet for its activities beyond the national boundaries.

As far as mail services between New York, Britain, the dominions, and Mexico, which is to be, is to be a matter of time. The British and Spanish air lines have proved themselves understanding. However, let us, as optimists, that if we don't do it somebody else will eventually. In the meantime we should aim at beginning toward creating a Pan-American air mail service by running an overland or line flies either New York or probably St. Louis to Mexico City. The 2000 miles from New York to St. Louis can be covered in 12 hours, and the 2000 miles from St. Louis to Mexico City would be a matter of seven days more. The 2000 miles from St. Louis to Mexico City the air mail could be handled through Central America down to Panama, which could go to rapid communications with the Costa Rica, Mexico, and the Central American governments would probably be sufficiently interested in such a venture to grant the necessary subsidies or a mail franchise on the order of the Colombian scheme.

South America as a Market

Let us keep an eye on South America. If the situation is intelligently handled, that continent—and Mexico too—may become the best foreign customer of our aircraft industry. There are 3000 miles of transoceanic freight for aircraft to be handled in Mexico, there already exists an excellent line between Los Angeles and Mexico City which can "trans" cargo rapidly. Once here, as a matter of fact, with respect to South America delivery of aircraft, we are in as in any, save short flight, basic time concerned. But seaplanes are the very kind of aircraft which are needed in South America, on one hand, the principal cities are situated on seacoast or on the rivers, the interior lands, however, are in general inaccessible except by long flights, so in Mexico, as in Central America, roads will be required, and the Andes. Hence, it is the unenclosed flying belt which should develop the demand for South American use, as we should plan the development of continental land planes for use in North America.

Let us keep an eye on South America. The future prosperity of the American aircraft industry may to a large extent depend upon it.

Cincinnati Airport

The Cincinnati airport, Grant Field, is rapidly taking form. The field is bounded at Blue Ash on the C. L. and M. Highway and that section cuts northward of the city of Cincinnati. It is to be used by the 25th Observation and 41st Pursuit Squadrons. Capt. Donald P. Moore, A.M., will command.

Operations are now being tested and will be completed about April 15. Six ships are assigned and are to be delivered from Wilbur Wright Field about May 1. Testimonial planes have been made for service of a hospital. A flight engineer and medical department will be stationed at the field.

At 2:30 p.m. yesterday the U.S. Air Service Examiner Officer at the Chamber of Commerce March 26. He spoke on aviation from a host pilot's point of view and concluded with a detailed and vivid description of the valourous and dubious record flights by Lieutenant Kelly and Missell last fall.

"If war were declared to insomnia what would we do for aircraft?"

American Pilots Make New World's Speed Records

Lieut. R. L. Manghan Exceeds Sadi Lerointe's Speed

The Franco-American contest for the world's maximum speed record continues. As you readers will remember, it started Oct. 16, 1932, at Bellings Field, West Virginia. The same date is set for the second race.

New world's speed records for the recognized distances of 806 and 1030 kilometers were made on March 30, over a measured 50-kilometer course between Villeneuve-sous-Mâcon, near Mâcon, and Le Mâconnais, France. Landström drove 806 kilometers (two laps of the course) in 2 hr. 42

General Mitchell's record was first recognized by the National Aeromotoric Association as 324 m.p.h. and this figure was submitted to the International Aerometric Federation for official recognition. Upon examination of the relative donations it was found by the F.A.I. that General Mitchell's record was 324 m.p.h. and that the record for the average speed over the one kilometer course was at the average of the four speeds, or the F.A.I. speed record. As a consequence General Mitchell's performance was corrected to result 322.65 m.p.h., which explains the discrepancy often found in references to his performance.

General Mitchell's performance remained the world's record until Feb. 15, 1931, when both Germans after numerous attempts made at Jena, France, established a new record with 225.028 m.p.h. in a Pitts Special. An as such this performance was bested by the Arado Club of France, the C. H. A. Army Aer Service started planning for a record but never had the money available. The Arado Club, however, never made any attempt and as such the Pitts record, and on which General Mitchell had his world's record, were put in place by Britain. Glauert and a one-liftmeter course was established at Wulver Wright Field. Propaganda soon began as to make the speed trial before April 1, after which date the new rating of the F.A.I. provided that successive world trials in fixed wings over a one-liftmeter course would be in June. Beginning April 1, British teams began to appear and with them came the first of many close contests, usually organized by the F.A.I. This racing was made at the F.A.I. endurance held in Bonn in 1932, and all interested clubs have been advised to do their best. Glauert in a spitfire serial flying had at McCall Field, Dayton, Ohio.

Eleven trips took the air once after another in an effort to beat the French records. Seven were to try for the 500 kilometer mark and five for the 1,000. Five of the planes finished the 500 kilometer distance and four of the others were driven down.

Aeromarines who beat the French record for 500 kilometers and distance were:

- 1. Louis Alexander Potez, (Verrières-Sperry) 3 hr 28 min 12.7 sec, average speed about 360 m.p.h.
- 2. René Minguet, (B.H.B.) 2 hr 32 min .46 sec, average speed of 322 m.p.h.
- 3. André Arthur Finch (Lagopéry) 3 hr 32 min .38 sec, average speed of 322.1 m.p.h.
- 4. Louis H. H. Mills, 2 hr 26 min .26 49 sec, averaging 312.3 m.p.h.

Acknowledgments

The last week of March Louis R. L. Marquise, A.B., winner of the 1932 Pulitzer Trophy race, and Louis L. J. Marland, A.B., who finished second in that race, made at Daytona repeated attempts to win back the speed record.

On March 26 Lieutenant Marquiss covered the distance from 3,445, 5,271, 5,544 and 6,066 m., respectively, making the total span of the bridge 18,260 m. The bridge was built by the contract methods of the St. Louis, Missouri, department of engineering. This figure leaves St. Louis Marquiss' record by about eight-tenths of a mile, but it cannot be classed as a new world's record, for the F.W.A. rules provide (Annals Civil Engineers, p. 158) that "distances of spans may only be broken by a distance of 4 km. or more."

On March 20 Lieutenant Maudlin was reported as gone disappear to have broken back Resende's record by making an average of 200 miles an hour. It appears however that this speed was not attained in a straight line, as the following extract from my story: "With 1, I know there is no such thing as a straight line; which one is the biggest road and takes the highest drive. That's where I got most of my speed." According to the New York Times, Maudlin ran to a height of several thousand feet and flying down a straight road at about 110 ft. above the ground had soared over the Colossus column. Obviously such a

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New Type of Flying Machine—The Lacierva "Autogiro"

By Harriet Mann

In the past few weeks the Spanish astronomical world has witnessed some highly interesting experiments with a type flying machine which it's inventer, Juan Luisoren, calls as "ulobots". A drawing view of this machine appeared in the cover of *Astrofisika* for March 15, 2003, while the accompanying illustrations show the machine in flight.

In a series of tests conducted at Centro Vuelos Airport, San Madrid, by Count A. Espinosa of the Spanish army, the Hispano Aviacion left the ground easily, made nine violent turns in the air, and landed without difficulty. The engine's ability to lead with practically no forward speed, the engine being shut off, the experiments showed that the Avioneta has remarkable stability, for it can be flown without the use of a rudder, and even inverted (although, and the editor emphasizes, it is best to avoid such a position of course without influencing the behavior of the machine).

The Subject Is Not a Mathematician

The Autogiro is not, as the first newspaper dispatches stated, a helicopter. In fact, the machine is based on principles entirely different from those followed in the construction



Fig. 1



Fig. 3. The famous "Snowshoe" rock.

shift in such way that in flight they place themselves in the vicinity of their hill and excursion areas.

The rest of the *Le Régis* is an ordinary tender airplane with no 30-mp Le Rhône engine and other parts, except the cantilevered tail surfaces. The main wings were built from Mahogany, had two with five main wings with 4-struts to safeguard the pilot against unexpected accelerations, but the experiments proved that this precaution was unnecessary. The *Antares* was found to take sufficiently in a short time, so the long period of the building of the main wings became the place of rotation about the single axis, with the leaning shaft, and this despite the gyroscopic effect. Therefore the stability is automatically assured on turns.

8-28-2002 (11-2)

On March 29 Lieutenant Mastland was reported in poor condition to have broken his left leg; Leonard's record by making an average of 4700 miles. It appears however that this speed was attained by driving into the course at the point where it stopped. "With 1½ hours time to make the circuit I had to fly as fast as possible," he said. "I had to stop at the first point where I got most of my speed." According to the New York Times, Mastland rose to a height of several thousand feet and flying close to the ground drove a zigzag course out at about 60 ft. above the ground and back over the laboratory course. Eventually such a course

FIG. 2. Theory of the Lecins "Antigens" flying machine
of helicopters as well as of airplanes. A helicopter is suitable in this case because which an engine causes to move the helicopter plane must not be necessarily in the *dyshemis*, on the contrary, the big four-bladed propeller which is mounted on a certain shaft fixed on the fuselage is not influenced by any power placed, but instead it is made to

Principle of the Angular Accelerometer
It is known from experiments that when a stationary armature is exposed to an air current, the blades being in position as shown in Fig. 1, it has a resultant R which makes an angle with the axis of the shaft. The resultant P of the opposite blades (Question 2) has a resultant angle A or α negative. Therefore a reaction is established by the armature in the sense of the angle A . The speed of rotation will increase until the reaction is equal to the sum of reactions of the armature. The steady Wiegand does not have to stand so long except the armature passes by the friction of the bearings, which can be reduced, eliminating therefore the necessity of some air precession.

However, the constant valency of the binder relative to the air at position A is greater than in B and its 1.0 will be

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greater also. Therefore, the total resultant of this moment will not pass through its center and the whole system will tend to turn. This banking effect has been overcome in the Autogiro by fitting the blades so that the shaft by means of a lever system can be rotated to set the blades at an angle in the resultant position of the centrifugal force and lift. In such a way, Modus A will bank slightly, while Modus B will remain horizontal and the total resultant of the lifting moment will always pass through its center.

If we analyze the effect of the hinged blades of the plane, we see that if the shaft can freely change its angle with the plane of rotation of the blades, but that the blades have a strong tendency to return to their original position relative to the shaft. This would produce a continually panted banking to the turns and stability in flight.

The velocity of the blades relative to the air is much greater than the translational speed of the whole machine. The angle of attack is a fraction of the translational speed of the machine and the angle between the direction of motion and the plane of rotation of the blades. This shows a much greater range of speeds and angles of flying in the whole machine and will permit landings in very small spaces without loss of control.

The Autogiro weighs about 3800 lb empty and 3200 lb loaded. The horizontal speed attained is from 35 to 45 m.p.h. The rotational speed of the lifting rotor is about 160 r.p.m. in horizontal flight. The descending speed in vertical landing is of about 6-10 ft. per second.

The Inventor and the Pilot

Mr. Losanoff, Jr., is 27 years old and comes down one of the oldest and best families of Medina. He is the son of one of the most popular aviators, Captain who has been serving these United States the Interwar Mexican War and Spanish Aviator of Puerto Rican in previous the chief of a Spanish political group. He is a graduate engineer and has had successfully several applications since 1918. He started to work as his first Autogiro in 1920. The present machine is his fifth attempt.

The tests have been carried out by Louis Alejandro G. Spanish Air Service. Lieutenant Spanish comes from an old English family who came to邵利斯 years ago. He is one of the most popular pilots of the Spanish Air Service, and has been a teacher in the Gobts Army Flying School for aerobatic flying.

Two Letters

Editor, Aviation

It is very gratifying to receive your letter of March 7, with reference to my recent article in the Saturday Evening Post, entitled "To You, of Course." Your criticisms are constructive and very helpful.

You are thinking in which, of course, as a lawyer, I am personally interested in the subject of Federal aviation government regulation. The industry can never go ahead, nor can we as a country equal the performances of foreign countries along established lines until we have Federal legislation governing this new form of transportation.

In my judgment, the one outstanding result of the World War has been the advancement of aviation and there seems to be an entire lack of understanding on the part of members of Congress as to what is needed in the way of legislation on the subject of federal control of aviation.

It is not my intention in the Saturday Evening Post article to give the impression that there is a lack of interest in aviation in general. There is a very large interest in the subject throughout this country, but there is a lack of interest on the part of Congress in laying the ground-work for the protection of private capital in its investment.

The question of subsidies to which you refer, will be de-

cussed in detail in a series of articles on European aviation which I have written for the Herald newspapers. These articles will begin appearing in April in the Sunday edition of the Herald papers throughout the country, and will later be published in book form.

I note what you say in regard to the super-charger, and the fact that I outlined its development in the McCook Field. I did not intend to overlook the inventors, or the fact that this is a development of the General Electric Co.

In one of the short articles on European aviation, and the application of European discoveries to American problems, I have called attention to the splendid work which the Dayson-Wright Co. have done in the training of aviation pilots and engineers recently. That firm has a number of excellent engineering schools. I agree with you that it is very easy to learn to fly, and the natural desire to fly can be developed in a very few hours.

I think you will realize that my case purpose in the Saturday Evening Post article was to emphasize the necessity of federal legislation for navigation. As so much as any legal subject is rather hairy, I tried to make the desired emphasis on the results produced through the medium of a story of the development of aviation navigation, and I hope that this may help my argument for this legislation in the usual legal form.

W. JEFFREY DAVIS
San Diego, Calif., March 27, 1923

Editor, Aviation

I wish to call your attention to the first article in The American Legion Magazine, March 2, 1923, entitled "The Autogiro," by W. E. L. Roberts, in which he says that this article does much to tear down associations in the eyes of the reader, that the Brown & Root Autogiro is. Every reference to this magazine probably read this article, and it is safe to say that not one of them would care to ride in or trust his passengers to an airplane.

It is this public support that is the very lifeblood of the flying industry, and that of which it is in such a need today.

I think this article was written solely through propaganda. The person writing it is not even mentioned. It is not the fault of the conditions in which this article exists. I think that the majority of the deaths, which the author has so eloquently helped us in such outstanding fashion, were caused by the performances of daring stuntmen, and should not be used as a justification for criticism.

It is no wonder that the national aviation bills are not passed. It will probably take a great deal of work to win back the readers of this compensated work of publicity. If anyone wants to do something to help the flying industry and transportation aviation would make faster progress. Also if more of our aeromobile enthusiasts, learned in reading and writing, would really get out and help—the general public would more easily view regarding aviation.

ROBERTS OAKES
Milwaukee, Wis., March 4, 1923

Canadian Air Activities

A large all-passenger airplane with five compartments arrived at Toronto, Ont., from Detroit March 21. The new stage is said to be the forerunner of a regular passenger and freight service between Chicago, Detroit, Toledo, and Ottawa. Both airports will be finished on the west end of Lake Ontario, just east of the mouth of the St. Lawrence River. Toronto will be the home of operations with a subsidiary branch eight to Chicago.

An air mail service between Prince Edward Island and New Brunswick is also under consideration. Residents of the province are said to have requested frequently a proposition for such service advanced on a recent visit to the island by Harry D. Wilkins, Montreal pilot, who is connected with the Laurentian Air Service, Ltd.

The question of subsidies to which you refer, will be de-

The Oehmichen-Peugeot Helicopter

A Machine which Embodies some Unusual Features

The small helicopter designed and built by Ettore Oehmichen, with which flights up to 5½ mi. duration and 250 ft. distance have been accomplished, is a great improvement over his first one. The inventor hopes to mark with this machine the steps initiated by the Engineering Division of the French Air Service, which conjugate movement of the main disk in the air, now considered to be of little use at altitude. What has been done here has met, another machine will be built for which place has already been chosen, and with which Mr. Oehmichen hopes to make still larger flights.

The machine consists of a framework of duralumin tubing, forming a cross with unequal arms. The greater arm, or longitudinal axis, extends the length of the machine, and indicates its principal direction of motion.

At the four ends of the arms are placed the lifting screws. These screws are grouped in pairs, with diameters of 7.08 in. for the lateral pair and 6.07 in. for the longitudinal pair. All four screws turn at the same speed. The screws are mounted in ball bearings on special coated hubs which have sufficient strength to withstand the reaction of the lateral lift. Each screw is driven by a motor which is located in the base of the hub. The transmission consists of four helical shafts, placed two by two on different levels, and passing from a central cage.

The four arms are driven by a 5-cylinder 250 h.p. Rhône engine, which is mounted in the central cage. The engine has been slightly altered to allow it to sit in with its own vertical. It is supplied by two gas tanks, of a total capacity of 10 liters. When the helicopter flies these reservoirs are automatically rotated from one another.

Gyroscopic Stabilizer

The central portion of the framework contains the stabilizing apparatus, which consists of a gyroscopic device fixed to the shaft of the motor and having at a maximum peripheral speed of 130 revs. a second. This apparatus assures stability in all directions, and is independent of the lateral lift.

The machine is controlled in flight by four variable pitch-screws of small size which are mounted on the propeller hubs of right angle with the lifting screws. The pilot sits, by means of a control lever, increases or decreases the angle of attack of these blades, and so add or subtract from the thrust of the nose screws. This arrangement allows the in-

International Air Congress, London

The International Air Congress, which is to be held on the island of the Isle of Wight, England, during the week June 29-July 4, 1923, under the Presidency of Group Captain H.H.H. the Duke of York, K.G., G.C.B., G.C.V.O., and of which Lord Ward of Eldonwood, F.C., P.M.A.C., is Vice-President, and the Duke of Sutherland (Under Secretary of State for Air), Chairman of the Main Committee, is intended to provide opportunity for the exchange and discussion of progress on every aspect of air transport. The pilot who is immediately associated with one aspect of the subject may be able to devote their attention to this particular interest, the Congress will be headed into four groups (each again divided into sub-groups) which will meet simultaneously:

Group A will deal with (a) Methods of Research, (b) Aerodynamics, (c) Control Surfaces, (d) Structural Methods, (e) Materials, (f) Flying Gear.

Group B will discuss air sections on (a) Fuel and Lubricants, (b) Motive Power Plant, (c) Aircraft.

Group C will discuss Air Transport and Navigation Problems under the four headings: (a) Technical

Aspects, (b) Engineering Problems, (c) Commercial, and Financial Problems, and (d) Mechanical and Legal Aspects.

Group D will devote itself to (a) Airship Design and Construction, and (b) Military utilization of civil personnel.

The reading of these papers will occupy Monday, Wednesday and Friday of the week, while Tuesday and Thursday will be devoted to visits in various places of interest. The Air Force here has arranged that the Royal Air Force Parade will take place on the Saturday, June 30.

The qualification for membership is membership of a society which is represented on the Federation Aeronautique Internationale or a signatory to the International Air Convention. The Member Societies must have been founded at least 10 years in existence, and must be composed of individuals who are members of aeronautical societies, while individuals belonging to the family of a member may for a reduced subscription be of 10% off.

Applications during further particulars and a form of application for membership should write direct to Lt. Col. W. Lockwood Marsh, General Secretary, International Air Congress, London, 1923, Gt. The Royal Automobile Society, 7, Albermarle Street, W1, England.

"If we were declared to-morrow what would we do for aircraft?"

The Brennan Helicopter

The same two past experiments have been taking place at South Farnborough, England, with the last one being made by the British air ministry by Louis Brennan, the English inventor. These experiments are being conducted with the greatest secrecy, and a like mystery surrounds the construction features of the machine.

Some time ago an English newspaper made some wireless press stories for the Brennan helicopter flying among others that it had risen to several thousand feet height, also making successful landings. These stories were probably derived from some source, however. The first transmission made public on the Brennan helicopter was the statement made in the House of Commons, March 25, by Sir Stanford Rotheray, British air minister, who declared that satisfactory progress has been made in the experiments with this machine.

In reference to the foregoing Dr. Rudy Cheshire's somewhat correspondence writes:

"Though everyone concerned with the experiments which have been going on for a long time past at Farnborough with our Government helicopter has been aware to close technical details, the first public disclosure of the machine was recently disclosed by Mr. Louis Brennan, engineer, as to how far the machine can fly, how much power is required of the gyroscopic balanced rotor, and how the engine of this particular research unit will perform. Already at Farnborough the first experimental man-carrying apparatus, half as large as he has been able to make up with one official experts, has shown itself capable of rising straight up from the ground carrying not only the weight of the machine but also an additional weight of 250 pounds. The machine has been tested in flight so that the various qualities of rising straight up and of hovering are considered.

"What these effects are now experienced says what will be the results of a fresh series of aerial flying tests in the balancing and stabilizing of the helicopter after it has left the ground and more especially the prevention of any tail-sweep moment should the machine hover. With the machine up in the air, as a result of the gyroscopic balance, it has been definitely established with Brennan as to the previous basis for hovering as well as vertical flight and also in connection with the majority of certain secret mechanisms considered to be ahead theoretically and scientifically or experiments considered elsewhere."

New French Subsidy Schemes

Up to the present the subsidies granted to commercial services in France have taken the form of subsidies for freight carried and passengers carried. The latest report by the Department of Commerce from Commercial Attaché Chester David Jones, Paris, The subsidies granted to private operators have been limited but a maximum duration of ten years. The Sub-Secretary of Agriculture is now studying plans for extending the concession period twenty years and providing for extensive subsidies for passenger and freight services. The latter in order to avoid serious competition. The routes already under consideration are three between Paris and London, between Paris and Constantinople, and between London and Croydon. During the coming year some of the major lines hereafter supported will be my present.

If legislative support can be secured for the thirty-five new routes now under discussion, it is hoped also to secure subsidies for the study of the possibility of obtaining a grant of interest on the capital invested in exchange for a share in possible profits of operation. This guarantee will not however under the plan now being devised involve the abolition of present premiums created. It is intended in general to bring the normal insurance rate substantially the same relations with the state as now apply to the individuals.

"If we were declared to-exercise what would we do for aircraft?"

Chicago Municipal Airport

A municipal airport is set out in several feet for the city of Chicago. During the season of 1922 negotiations were opened with the field owners to open the field to the public both land and visitors. A tract of ground consisting of 80 acres (less half mile long and one quarter mile wide) was leased from the city. It was so late in the autumn that nothing was done until November toward putting the field in shape for landing.

A permanent three-story hangar is being erected which will be owned by the government. The cost of the property-hangar and service building will already have passed the \$100,000 mark. It will be a small shop, comfort driveways, stock room, etc., in place ready to serve visitors and local drivers.

The municipal airport of Chicago is situated at the South West side of the city, on the North West corner of Elwood St and Cicero Ave. It is about 25 miles from the downtown district. There is no public transportation to the field and each auto which takes over to the city costs 45 miles. There are lunch rooms and other places adjacent to the field where the visitor may eat and witness the necessary things he may want.

The field is not and has drainage ditches on two sides which remove most of the surface water. Under runways will also be drainage ditches to facilitate field longer stays and to shorten the landing distance. The field will be open for anyone who wishes to use it and the money, time and fuel will not be charged for landing or storage. A competent man will be on duty at all times and Chicago invites all pilots to use this municipal airfield.

Several of the local companies have indicated that they will use the field, the Higgins School, the Jesus Ferry Co., Chas. E. Brown, and others. The first flight school company affiliated this year and are continuing their fifth year of operation. They will carry on instruction, passenger flights, photography, sales, cross country, and a general aviation business.

Sikorsky Valves

One of the principal causes of engine failure is valve failure due to extreme motor temperatures at which no material was heretofore known to remain indefinitely. The Root Products Co. of Cleveland, Ohio, after fifteen years of valve research, during which time no material had been developed that could withstand such temperatures, had undertaken to determine its efficiency at temperatures greatly in excess of those met with in any aircraft engine.

Amidst the various tests in which this new alloy has been subjected two may be mentioned as being particularly interesting:

1. Operation of a large automobile manufacturing company equipped test cars with Thompson-Sikorsky valves. The cars were driven 25,000 miles, averaging 400 miles a day, with three shifts of drivers, changing every eight hours. The engines never stopped save for fuel, oil and minor adjustments. The valves were in splendid condition at the end of the test and Thompson-Sikorsky was using standard equipment.

2. 300 horsepower engine, Wright E-3, was used in a wind tunnel under controlled conditions at Washington, D. C., with the object of determining "endurance characteristics of special experimental devices when operated at nine-tenths rated horsepower at rated speed using gasoline as fuel." The engine was operated with open exhaust on a free air test stand, using a calibrated disk of the desired pitch type to absorb the power. The engine ran continuously under these conditions for 100 hours, with a slight increase in temperature. The pressure raised was 90 psi. Conclusion of the tests came to this moment: "The performance of the Sikorsky valves is highly commendable. The valves retained their shape and did not jet or stretch. Their condition at the end of the run was perfect." Thompson-Sikorsky Valves were adopted.

Aircraft for Relief Operations

The Air Service of the Army, Navy and Post Office Department have made available to the American Red Cross for service in its disaster relief operations, according to an announcement made at Red Cross National Headquarters March 30.

Secretary of War Weeks soon after advised the Red Cross that in case of emergency the Chief of Air Service would at once arrange for the transportation of disaster relief personnel in airplanes to the scene of disaster upon telegraphic request from duly authorized agents of the Red Cross.

Recently, at the suggestion of the National Aeronautic Association, the Red Cross requested similar cooperation by the Army and Post Office Departments. The Army Department, through Gen. Harry C. Harbord, has expressed its willingness to lend transportation by means of its aircraft, upon application to the Secretary of the Navy. The Post Office Department has likewise extended the use of its air mail service to the Red Cross under certain conditions. In this connection the service would be in急切ly addressed to the commanding air and marine stations from New York to San Francisco, Seattle, Chicago, Iowa City, Des Moines, Cedar Rapids, Fort Lauderdale and Boston. The service will be given upon telegraphic request to the Section Assistant Postmaster General at Washington.

Red Cross managers of the Red Cross have instructed to exercise care in originating requests for airplane transportation, which will be used only as means of supplemental security. The use of the combined air service is expected to be of great assistance to the Red Cross in transporting quickly emergency personnel and supplies to the scene of a disaster.

Sikorsky Forms Company

The Sikorsky Aero Engineering Corp. was chartered March 5, 1925, by the Secretary of State of New York, with a capital of \$100,000.

The purpose of the corporation is to build, sell and to generally exploit the airplanes of L. I. Sikorsky's system. L. I. Sikorsky, who is president of the corporation, is the famous Stevens' constructor of the first multi-motorized airplane in the world, as well as the first successful large airplane. The officers of the corporation are: W. A. Barry, Treasurer; L. A. Shostromoff, Secretary.

The offices of the corporation are temporarily located at 214 East 25th Street, New York City.



The new Curtiss Metal Pursuit Airplane (MSP) (see CURTIS DIR report) which in a recent trial over a kilometer base, at White Field, made an average speed of 177 m.p.h.

Aero Club of Wisconsin

The Aero Club of Wisconsin has entirely reorganized with the following officers:

President, George W. Brown, honorary vice-president, Gen. Gen. William D. Harbord, vice-president; Walter J. Kraske, Harry W. Miller, Harry C. Harbord, Vice-Presidents; F. P. Brown, secretary; Joe S. Morris, Board of Directors—F. A. Temple, Otto Henschel, Rudolf Holzhausen, J. H. Mihlin, Hugo Schatzberg, L. J. McColl, board members; G. Auer and Alfred Perga.

The newly elected president, Mr. Brown, bought the East Coast side of Wisconsin and established the first flying field in Milwaukee at Capitol Ave. and Blue Mound Rd. He was western sales manager for the Curtiss Company and later eastern sales manager of the company. He also presented a memorial aeronautical monument to the University of Chicago.

At an annual meeting held on March 25 the Club voted against making a bid for the 1925 National Air Races. While the Club would have liked to stage the event, existing conditions precluded any possibility of raising sufficient funds immediately to promote the race.

While the Club has given up the idea of staging a second balloon race, it will, nevertheless, promote a number of events in the area, calculated to attract attention to aeronautics.

New Air Convention

Script by the State Department of a report by the German delegation to the Conference which sat at The Hague last December was followed by a report by Senator Hughes that the Government might initiate action to induce Germany to ratify a convention among various nations binding them to a strict observance of international law applying to aircraft and radio.

At the present time the report is being studied by State Department officials as a necessary step before it can be put forward as the basis for a formal convention. However, as far as the United States is concerned, the Washington armistice conference called by Gen. Pershing, it was not felt to be entirely essential that the United States would take the initiative in preparing a convention.

The report was forwarded by John Branch Moore, who represented the Government on the Commission of Jurists, and Army and Navy officers who attended the conference in the name of the American delegation. Mr. Moore is understood to have been absent from the conference because he was in the United States and other places.

"If we were declared to-exercise what would we do for aircraft?"

British Torpedo Flying Boat**Aviation in Congress**
Feb. 11, 1925 — Feb. 24, 1923

Jan. 21. House
Mr. Kuhn's bill (H.R. 14131) to amend the grants funding qualifications to aircraft pilot or observer in Section 1(a) of the National Defense Act, as amended.

Feb. 13. Senate
Mr. Goldin, from the Committee on Post Offices and Post Roads, to which he referred the bill (S. 2091), to provide for the payment of the amounts expended in the construction of hangars and the maintenance of flying fields for the use of the air mail service of the Post Office Department, reported it without amendment and submitted a report (No. 1343) thereto. Passed the Senate on Feb. 13. Aye.

Mr. Pringsheim's bill (H.R. 14038) to authorize the sale of certain Government property and authorizing an appropriation for permanent buildings and improvements for use of the engineering division of the Air Service of the Army, to the Committee on Military Affairs.

Feb. 15. House
Mr. Starnes' bill (H.R. 4247). Mr. Starnes in a speech calling for the consideration of 13 of our older hangars given the number of Aircraft reserves issued by U. S., Great Britain and Japan. They are:

In time U. S. 2 — Great Britain 1 — Japan 9
And later U. S. 1 — Great Britain 5 — Japan 8

Feb. 16. House
Bill (H.R. 3794). See above under Feb. 15. Passed the Senate.
Notes

Navy Ordnance Bill (S. 3137) See 8. Amendment authorizing the Secretary of the Navy to expend \$15,000 for acquiring the site of the naval station at Pensacola, Fla., and \$10,000 for site at San Diego, Calif. Also authorizing the sale of the site at Galveston, Tex. Agreed to.

Feb. 17. House
Senate bill (S. 3884). (See above) was read and sent to the Committee on Claims.

Mr. McLean's bill on Military Affairs (H.R. 14138). A bill to enhance the sale of certain Government property and authorizing an appropriation for permanent buildings and improvements for use

of the engineering division of the Air Service of the Army, with amendments (H.R. No. 3649). Referred to the Committee on the Ways and Means on the State of the Union.

Feb. 22. House
Political Bill. By Mr. Myrick. Permit of Commissioner of Commerce of Buffalo, N. Y., requiring the Window Bill covered by each association act of 2002 (H.R. 15715), to the Committee on Interstate and Foreign Commerce.

Feb. 23. House
Prinsfeld signed the H.R. 6204. An act to grant the military target range of Lincoln County, Okla., to the city of Chandler, Okla., and reserving the right to use for military and aviation purposes. Aviation Cluster of Commerce

New Map for Air Navigation

A new type of aeronautical map, which will prove of great assistance to aviators in making cross country flights, has just been developed under direction of the Chief of Air Service. The details being worked out under the direct supervision of the Aviation Section of his office. The main characteristics of this map are as follows:

The map shows roads in blue, railroads in black, differentiation being made between single track and double track, steam lines and electric lines; highways are shown in red, differentiating between the important and the unimportant; towns are indicated in according to shape; a radial layer system of shading is used to represent the various degrees of altitude; that is, light green for 1,000 ft., medium green for 2,000 ft. and dark green for 3,000 ft.; light pink for between 3,000 and 3,500 ft., medium pink for between 3,500 and 4,000 ft., etc. Overprinted upon the map in purple are small crosses designating the location of landing facilities on which no sketches are available. Small dots in purple represent landing facilities on which sketches of such facilities are found along the border of the map. Where the names of towns are unknown, it is noted that there are no small large letter initials placed to the right of the name, which are the initials of the town. The work of marking these towns was done from an experimental standpoint by the Engineering Division of the Air Service at McCook Field, Dayton, Ohio.

This map is still in the experimental stage, and a few minor changes are contemplated for the final stage. The features that are kept are to be placed in white, and the features to be deleted in white, also the compass course and landing field data put in red. The new type of aerial navigation map which is already completed in that covering the states between Dayton, Ohio, and Cleveland, W. Va.



Courtesy British Air Ministry
See British Single Seater Fighter, the Bristol "Biplane," fitted with a Bristol Jupiter 600 h.p. 8 cylinder radial engine.

"If war were declared to-morrow what would we do for strength?"

The Nistri Aerial Camera

The Nistri Aerial Camera which is illustrated herewith is constructed with monogrammatic plate magazine. These magazines are so designed that they can be easily taken out and replaced without taking off longer than five seconds. This is an advantage with use inasmuch as the plane cannot span magazines can be carried to take any number of photographs. A film magazine as provided which is interchangeable with the plate magazine which will take from 300 to 3000 photographs. No special manipulation is required to change from the use of one to the other.

The magazines may be operated either by hand or automatically by a propeller or wind case placed on the outside of the

The Supermarine Aviation Works, Ltd., of Southampton, England, recently completed the development of a new type of aerial camera system for the Royal Air Force regarding which Ultra-Sensitive gives the following particulars:

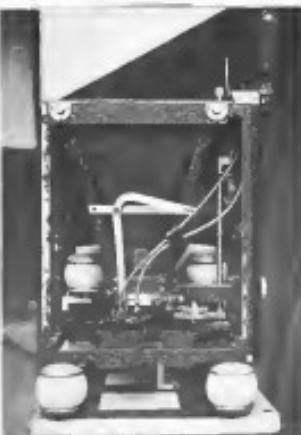
The body bell is made of plywood and has two stages. Twenty-six water tight compartments are provided to insure the safety of damage to the bell. The blue panel is fastened by an ordinary safety pin, which is attached to the air bell body. The bell body contains a water propeller for the plane suspension. The engine also operates the system for lighting the bell and starting the engine, and a separate holder a small wind for keeping the 125 lb. anchor.

The wings are of trapeze form and they constitute a unit which can be removed from the bell by removing a central screw of the holder. The engine mounting is incorporated in the wing and the wings fold up. The upper wings, double, and the upper and middle wings, when folded over, while the lower wing, which is 30 ft. above the water line, is entirely covered with plywood.

The following specifications are available:
Size, top and middle wings, 16.96 m.
Span, bottom wing, 14.82 m.
Overall length, 9.15 m.
Maximum height, 7.02 m.
Total wing area, 21.72 m.
Empty weight, 1698 kg. Radio-Hoyne "Dundar".
Gross weight, 3025 kg.

The Supermarine torpedo flying boat can carry sufficient fuel for a 1000 mile flight, or it can carry two 2000 m. mine-laying torpedoes for a flight of less distance. The protective armament comprises five .30 calibre guns, disposed as follows: one mounted in a gun ring, three mounted on a platform situated on the base side of the wings, and one on each side of the hull.

The Royal Air Force has for some time been experimenting with large canvas flying boats, none of which is believed to have as yet passed the experimental stage. Among these boats there may be recalled the Petrel ("Perry" (Sir Hollis Royce "Bullnose" 275 h.p. engine), the Vulture ("Vulture") and the Short "Dovecot" (Cock 210 h.p. two Holt 200 "Gander" 600 h.p. engines), and the Fairey "Dovecot" (Bentley "Coward" engines).



Interior view of the Nistri Aerial Camera

Intense. Changing from land to antenna operation is controlled by a lever, and this operation can be carried out with great facility should the wind case fail to function during military operations.

Intense. As trigger independent from the plane shutter assembly. This is useful for taking photographs over a particular point.

The control levers are placed on an instrument board in the passenger's cockpit in such a position that their manipulation will be easy and rapid. For taking pictures automatically at high altitude, when the oil pressure causes the pictures would be taken at the wrong place, a safety valve is provided. This gear is controlled from the outside of the camera case. To do this cause the damping opening of the lens is controlled from the outside. In order to avoid the passenger's blinding, a single driver is provided to prevent the side of the magazine being open before the magazine is attached to the camera and also to prevent the magazine being removed while the side has been closed.

The camera is made of aluminum bronze and weighs with magazine, about 22 lbs.

"If war were declared to-morrow what would we do for strength?"

War-Time Fraud Cases

By decision of the President a Special Board of the War Transmissions Section of the Department of Justice, to be known as the Board of Survey, was appointed Feb. 22 to inquire with a similar organization created in the War Department in 1917 into the conduct of the transmissions needed in connection with the war.

The following officers of the Department will constitute said Board of Survey:

The members of the Advisory Council, Judges Kerr and Biggar;

The Chief of the Sub-division of the War Transmissions Section in charge of Corps and Contractors, Ernest C. McCollum;

The Chief of the Sub-division of the War Transmissions Section in charge of Quartermaster Contracts, G. Frank McMurtry;

The Chief of the Sub-division of the War Transmissions Section in charge of Ordnance and Foreign Contracts, Harry W. Anderson;

The Board appointed by the Secretary of War is composed of the following: The Assistant Secretary of War, Chairman; The Quartermaster General, The Chief of Engineers, The Chief of Ordnance, The Chief of Air Service, The Chief of Engineers, Col. J. H. Dodge, Judge Advocate.

First Lord, Earl H. Dulado, Kelly Field, has been directed to report to the Judge Advocate.

ARMY AND NAVY AIR NEWS

U. S. Army Air Service

Army Flyers—First Lt. Louis C. Strode, Jr., A.S., from Maxwell Field, Montgomery, Ala., to Fort Myrick Field.

Capt. George E. Schaeffer, Q.C., appointed commanding quartermaster, Modocrons, A.T.D., appointed commanding quartermaster.

First Lt. Howard E. Polson, 32d Inf., detailed to Air Service, at Camp Fields.

Second Lt. Charles L. Williams, Inf., transferred to Air Service, at Chautauqua Field.

Maj. John W. Dickey, Inf., Robert A. Strode, A.S., from MacCork Field to Langley Field.

Sec. Capt. Kenneth F. Pughe, A.S., transferred to Infantry.

First Lt. Richard Odessa Hargan, A.S., absent from duty for more than three months without leave or dropped from the rolls of the Army.

Capt. John W. Dickey, Inf., promoted to major of Major. He will remain at MacCork Field.

First Lt. Vernon H. Stevens, A.S., from Camp Field to Modocrons, A.T.D., Pa.

First Lt. Robert H. Fiske, A.S., from Kelly Field to Langley Field on completion of course at Yale University. Win Col. John Shepard from Modocrons A.T.D. to MacCork Field.

First Lt. Earle H. Tandy, A.S., from MacCork Field to Langley Field.

Unsuccessful Attempts at Duration Record—An unsuccessful attempt was made on March 30 by Lt. Col. Oakley G. Kelly and John A. MacCrory, A.S., to best with the Army Fokker D.VII the existing world's duration record of 34 hr. 15 min. 7 sec., set up by Lt. Col. James M. Smith, World War, at Dayton, Ohio, in a biplane of 415 ft. in the afternoon. Lt. Col. Kelly being in the pilot's cockpit. After flying through the night and part of the following day the long endurance team was forced to make a landing on account of engine trouble, at Wilmer Wright Field at 1300 hr. on March 31. This was the second time that Lt. Col. Kelly and MacCrory had failed to accomplish their purpose.

The first attempt was postponed due to a sudden change in weather, and the second attempt owing to the influence of the ground at Wilmer Wright Field, the loosely bound Fokker having trouble in getting off the ground after running practically the entire distance.

Kelly and MacCrory's latest attempt was made over a triangular course of 30 kilometers, at 3,000 ft. altitude, the training of the Air Service to establish speed records for 1900, 2000, 2500 and 4000 kilometers at the same time as the world's maximum duration record.

Last Cross-Country Flight—A remarkable high-speed was made during a flight from Niagara, Ark., to Fort Huachuca, Tex., by Maj. Lee C. Dickey, Inf., flying 1000 miles in 1 hr. 50 min. with Sergeant Lewis as observer. They covered the distance of 13 miles from Columbus, N. M., to Fort Huachuca in 18 min., an average speed of 250 mph.

The flight from Columbus to Fort Huachuca was made in a blinding sand storm, the air being saturated with sand up to a height of 6000 ft. Major Dickey endeavored to climb above the sand after leaving Columbus but was unable to do so on account of the velocity of the sand and the shortness of the flight. He made a safe landing on the Fort Huachuca grounds.

"If we were declared to-morrow what would we do for aircraft?"

Pilotless Kite Wins Reserve Inventory Race—With an average of photographing certain sections of surface, a kite was designed at the 12th Flying Service at Camp Field. Lieut. Ernest L. Mangino, A.S., with Private Carter as pilot-captain, encountered trouble as they neared Rogers, Okla., a combination of ice fog and engine trouble forced Lieutenant Mangino to land in the river. The plane turned over on its side, but Carter got out unscathed, and the only revolution were maps, compass and sketches.

Cartier, upon being interviewed, in part said: "Of course, my new pilotless device could not work down here every time, my —— O.D. blouse stuck to the tail of the ship." Lieutenant Mangino stated that after turning over he had the chance of getting down doors around the wing to get out on a flying upside down in the cockpit. Needless to say, he does.

The next day Lieutenant Goldsmith, with Sergeant Kite as photographer, who started out from Camp Field on the second section of the expedition, landed at Texarkana, where he had of Lieutenant Mangino's accident and went back to his base. All losses returned in Camp Field to make way for new equipment and maps.

Supreme Court Reserves Flying Pay Decision—The Supreme Court of the United States on March 18 reversed the decision of the Court of Claims in the famous Stoller case, which claim was for \$10 per cent additional flying pay based on the pay of a corporal. The court held that the claim would affect hundreds of young men who are in the Air Service during the war, many of whom have their claims for this money.

In February of 1922 the Court of Claims rendered a favorable decision in the case of Nelson W. Edler. The Supreme Court later appended this decision to the United States Supreme Court, which rendered the decision on the above-mentioned case, holding that the claimant was entitled to compensation but such men were not entitled to this additional flying pay.

In this connection it should be noted that flying crews now in training receive \$75 per month, which includes flying pay; that is, they do not receive any pay in addition to the \$75 for the flying rods.

The Atlanta Take Flight in Alecky D.VI—Carrying Col. C. G. Hall, Maj. J. A. Purdy, Capt. V. R. Stone, Louis D. Clark, H. H. Holland, Philip Schaeffer, E. C. McElroy, E. F. Sheld, and two engineers, the Army Alecky D.VI recently made a short flight from Scott Field to White Church, near Belvoir, Md., on March 28.

The flight was made for the purpose of increasing student pilots' confidence in achieving meteorological conditions in the vicinity of the Kentucky River.

General Patrick Assumes Scott Field—Major Gen. Mann M. Patrick, Chief of Air Service, recently visited St. Louis, Mo., and went several days there respecting proposed site for the 1922 Pulitzer Trophy Race. He also inspected Scott Field Belleville, Ill.

The intended trip in an airplane and the inspection of the camp from the air had to be canceled on account of the General's ill health.

April 6, 1923

AVIATION



Official Photo, U. S. Army Air Service

Glider produced by the Engineering Division, Air Service which has just been tested at MacCork Field.

MacCork Field Develops Target Gliders—The Target Glider which is illustrated on the front cover of this issue, was developed by the Engineering Division of the Air Service for use on flying fields where training in aircraft piloting is given. As may be seen from the illustration, the Target Glider is fastened to the top wing of an airplane, and it is released at heights of 100 ft. and allowed to the ground at a speed of about 30 m.p.h., after making a smooth target for aerialmark and airplane gun.

The target glider has a wing span of 12 ft. 6 in., an area of 15 sq. ft., and weighs 25 lb. This size was decided upon because it presents as much surface to the gunner as the total span of a full-size seaplane. The speed at which the glider descends may be regulated by change of weight or manipulation of the surfaces. It can even be adjusted before landing without any special tools.

The target glider and the release mechanism were tested for the first time at MacCork Field on March 2. A man was made without leaving the ground up to about 40 m.p.h. to make sure that the target gliders wings did not fall off. Then the airplane rose into the air and the glider was released at about 20 ft. altitude. Owing to the down wash which occurs when the upper wing of a 40 ft. airplane is about 10 ft. above the ground, the target glider did not fall away but support until the pilot was required to come down when the glider promptly sailed a stall about 30 ft. above the releasing point and then fell into a dive from which it was able to recover when it struck the ground.

The experiment showed that up to speeds reached in the test flight, neither of the gliders did not occur, that even when released with a downward velocity of 10 m.p.h. and a downward velocity of 100 ft. per second, a greater altitude is necessary in order to give it a chance to recover when a glider falls, that the release link is satisfactory, and that sheet metal surfaces should be cut from the glider tail to secure sufficient evidence for a power get-away when released.

Gliding in Army Air Service—Three types of tests of the Glidemobile glider were recently made at MacCork Field. Much more favorable results probably would have been obtained had these trials been made at a place more adapted for sustained flight, since the topography of the country seemed to offer no opportunity for the glider flying speed.

The first results of the trials resulted in a gliding on the second day of the tests. With a weight of 55 lb. and 25 m.p.h. the take-off required about 15 ft., and the flights reached an altitude of 12 ft. and were about 200 ft. in length. The controls appeared to answer perfectly.

On the third series of tests the glider did not lose the ground, due to the fact that there was absolutely no wind. The landing gear and instruments were then removed from the glider, reducing its weight by 45 lb. Lieutenant Brodey

and Poore each made one run, the glider being supported only on its main skid. These tests proved that a glider did not need a tail-skid, the glider not losing its equilibrium until it reached a speed of 60 m.p.h.

The glider, both because of its economy and simplicity of construction, has an appeal for sportmen in whom the excitement of an air race is lacking, as well as for the members of the Air Service in learning to operate the glider. These men are gaining experience which would be invaluable to them as targets pilots, and which would make these training as much a comparatively easy matter for the government.

For this reason, and also because it appears certain to negotiat a phase of development in which other countries are making rapid strides, the Army Air Service is conducting these very limited tests. Further experiments are to be made and interesting results may be expected.

Air-Attack Artillery Gun in Philippines—The 9th Anti-Aircraft Battalion, Artillery, U. S. Army, at Fort Crockett, Tex., has been designated for service in the Philippine Islands. At the instance of the War Department by means of transfers and assignments or recruits to bring the battalion to a strength of 400. The necessary additional commissioned officers will be ordered to join the battalion in New York and San Francisco.

Coming Aeronautical Events

AMERICAN

May 10—Fifth Annual Aeroplane Reliability, Flying Club of Baltimore, Logan Field, Dundalk, Md.

June 10—

July 1—National Airplane Races, St. Louis, Mo.

Sept. 1—

Oct. 12—National Airplane Races, St. Louis, Mo.

Dec. Fall—Curtiss Marine Flying Trophy Race.

FOREIGN

May 11—Grand National, Paris, France.

June 21—International Auto Cup, London.

July 20—International Auto Cup, Gotha, Germany.

Aug. 12—Sachsen Motorwagen Meisterschaft, Gotha, Germany.

Aug. 13—Sachsen Motor, Meiss, Dresden, Germany.

Sept. 18—Schlesier Motoren Meisterschaft, Leipzig, Germany.

Dec. 1—Puris class for French Engine competition.

"If we were declared to-morrow what would we do for aircraft?"

Marking the departure from Washington to New York—The Air Service contingent at the Aberdeen Proving Grounds, Md., prepare to make eight landing fields on the Model Aviation Route from Washington to New York. Further permission has been granted to use the route, section 500 feet in diameter, with a border four feet wide of the best sheet cloth obtainable, which will be pegged to the ground.

U. S. Naval Aviation

Naval Orders—Lieu. Fred M. Dunn, det. Nav. Air Sta., Camp Kelly, C. I., to Army Sqdn. Battle Fleet.

Lieu. Louis Schlesinger, det. Army Sqdn. Scouting Fleet; to Nav. Air Sta. Coco Solo, C. Z.

Lieu. J. G. Watson P. Edwards, det. Nav. Air Sta. Pensacola, Fla.; to Navy Sqdn. New York.

Lieu. J. G. Thompson P. Ward, det. Nav. Air Sta. Pensacola, Fla.; to U. S. Machanich.

Capt. E. H. R. Barnes, det. Nav. Air Sta. Navy Dept.; to Navy Air Sta. Lahaina, S. J.

Lieu. John H. Lawrence, det. Nav. Air Sta. Hangar Roads, Fla.; to Army Sqdn. Navy Dept.

Lieu. Stewart A. Miller, det. Nav. Air Sta. Pensacola, Fla.; to come to U. S.S. Hornbeam and to remain when unoccupied.

Capt. J. G. Oliver W. Gorham, det. Nav. Air Sta. Pensacola, Fla.; to Army Sqdn. Scouting Fleet.

Lieu. J. G. Justin B. Hartland, det. Nav. Air Sta. Pensacola, Fla.; to come to U. S.S. Sullivans.

Lieu. Capt. Carroll L. Tyle, det. Nav. Air Sta. Pensacola, Fla.; to Navy Sqdn. New York.

Capt. Edward C. Nease, det. U. S.S. Murphy; to Navy Air Sta. Pensacola, Fla.

Lieu. Capt. Lawrence V. Curtis, in Army Sqdn. Battle Fleet.

Lie. Captain Francis T. Chen, det. Nav. Air Sta. San Diego, Calif.; to command U. S.S. Caproni.

Capt. Connelly W. L. Lind, det. U. S. Caproni, to command Nav. Air Sta. San Diego, Calif.; to come officer.

Lieu. William J. Hart, det. U. S. Caproni, to command of San Joaquin East and West Islands C. I. to U. S. Fleet Inspector of San Joaquin East and West Islands C. I., Calif.

Lieu. Leslie Hendricks, det. Navy Sqdn. New York, to assume inspection of Nav. Aircraft, Garden City, L. I.

Lieu. Ross K. Jones, det. Navy Sqdn. New York, to inspect inspection of Nav. Aircraft, Garden City, L. I.

Lieu. Tedford B. Neal, det. Nav. Air Sta. Hampton Roads, Va.; to Nav. Air Sta. Lakewood, N. J.

Capt. George F. Cudell, det. Nav. Air Sta. Hampton Roads, Va.; to Nav. Air Sta. Lakewood, N. J.

Lieu. Nathaniel A. Bourne (C.C.), to Nav. Air Sta. Hampton Roads, Va.; to design and construct officer.

Lieu. Louis Melville, det. Inspector Nav. Aircraft, Curtis Aeroplane & Motor Corp., Garden City, L. I., to Inspector Nav. Aircraft, Douglas Co., Santa Monica, Calif.

Lieu. Frank W. Ward, det. Army Sqdn. Battle Fleet; to Army Sqdn. Navy Dept.

Capt. Charles E. O'Leary (C.C.), det. Bu. Supplies and Accounts; to supply officer, Army Sqdn. Scouting Fleet.

Aeronautical Training in Navy—The first class in Naval Aviation Training will start on July 1, at the Pensacola Naval Air Station, according to a recent announcement by the Navy. Applications for work on coming week must be submitted by May 31.

Competent officers of various ships and stations are urged in the Bureau of Navigation to encourage all officers who are eligible for and who desire this duty to submit applications. The Department is desirous of increasing the number of officers on aviation details to the point where it will be possible to manage for general duty those officers who have been held in aviation for the longest periods.

"If war were declared tomorrow what would we do for aircraft?"



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